Mint of the United States at Philadelphia, Pa.,
Machine Shops
~~SUPERINTENDENT'S OFFICE~~,
March 19th, 1889.

Hon. D. M. Fox
Superintendent
Dear Sir

I herewith respectfully present for your consideration a design for Steel Rolls adapted to the use of the Mint in rolling metal ingots into fillets for the production of Coin planchets, and chiefly intended to be used in the finishing of the fillets prior to the cutting of the planchets.

The design is presented as a means of overcoming the difficulty long experienced in obtaining Steel Rolls, the faces of which are of sufficient

hardness to withstand the alteration to the face of the roll, destroying the truth of the Rame, thereby producing fillets of varying thicknesses.

In our experience of many years it has been found that Steel Rolls have failed to perform the work, and retain perfect accuracy of face for any considerable time; in fact, it must be granted that the destruction of the truth of the face commences with the first fillet rolled, and gradually continuing until the truth is reestablished by grinding the roll.

The Chilled Iron Rolls in use, while possessing such a degree of hardness of face as will for a long time preserve the truth of the face of the roll, should the face remain perfect; are not to be

depended upon, from the constant liability of the face to be destroyed by the dropping out therefrom of crystals, or cubes of metal, leaving the face of the roll full of indentations varying in Size, Consequently preventing their being relied upon as finishing rolls, or even for the work of the breaking down of the ingot.

By reference to the record as kept of rolls, as used here, it is found that the average life, or period that rolls have been in use prior to regrinding is, for Steel Rolls, used on finishing drafts, 75 days; and on the breaking down of ingots into billets 224 days, or three times longer than the life of the finishing rolls: it being here observed that defects in the breaking down process are corrected when billets are passed between the

finishing rolls, hence the prolonged life of the break down rolls.

The Cost of Steel Rolls, as compared with Chilled Iron, is as 6 to 1, Steel Rolls costing ℔1200 ea, and Chilled Iron ℔200 ea per pair.

It is believed that a pair of hardened Steel Shell rolls, as per accompanying Sketch, may be constructed at a cost not exceeding that paid for the Solid Steel rolls, and the request is made, that permission may be obtained to construct one pair for trial, as per design.

I herewith present a copy of a letter from "The J. Morton Poole Co" of Wilmington Del. giving their views on the subject.

The explanation appearing on the drawing will it is hoped fully describe the plan of

Making the Block Signal wells as stated above,

Very Respectfully

Thos. Jones

Foreman of Mch Shop

Copy

The J. Morton Poole Co
Manufacturers of Chilled Rolls
Wilmington Del. Feby 22. 1889

Dear Sir

We can see no reason why a pair of Steel Shells 10" diameter and 10" long, cannot be made and well secured on the Shafts as shown on your drawing.

To make these hardened Steel Shells ~~some~~ would require some special tools, and first class workmanship. The tempering or degree of hardness they would bear, must necessarily be a matter of experiment

Yours truly
The J Morton Poole Co
Wm T. Porter
Prest

To Mr Samuel James
United States Mint &
Philadelphia Pa

927½.

Mint of the United States at Philadelphia, Pa.

SUPERINTENDENT'S OFFICE,

March 19th, 1889

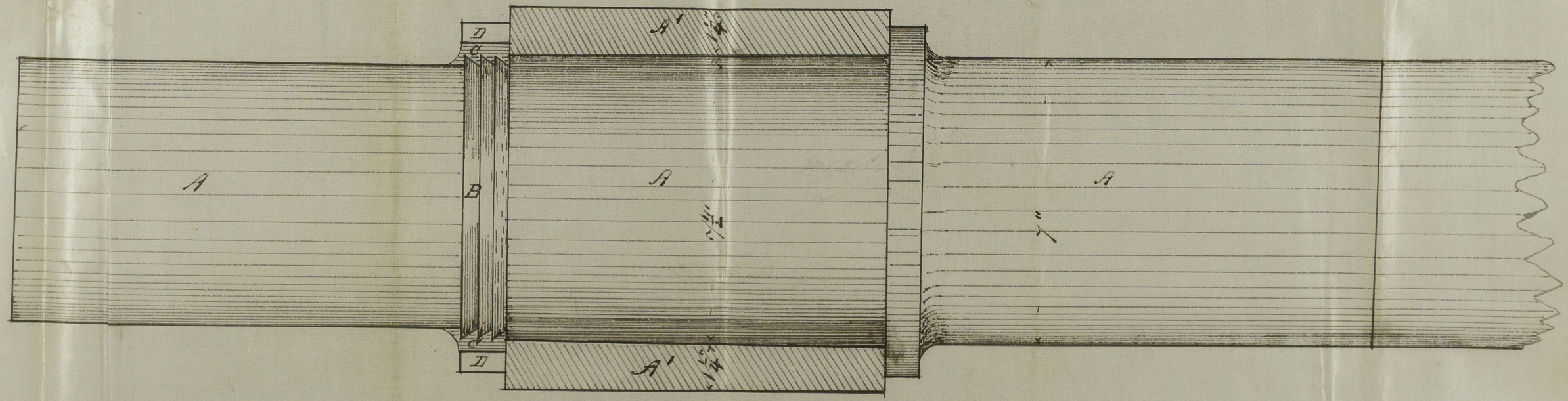
Saml. James.

Foreman. ~~Superintendent.~~

Results Designs for Steel Rolls.

No. of Enclosures.

March 19th 1889



A Steel Mandrill

A' Hardened steel sleeve

B Angular rings turned on mandrill

C Split collar

D Ring shrunk on collar

Design for 10 inch hardened shell rolls

Scale 3/8 — 1"

Saml Jones

11/15 88

NARA RG104, Entry 1, Box 156

Mint of the United States at Philadelphia, Pa.,
Machine Shop
March 19, 1889

Hon. D.M. Fox
Superintendent

Dear Sir

I herewith respectfully present for your consideration a design for Steel Rolls adapted to the use of the Mint in rolling metal ingots into fillets for the production of coin planchets, and chiefly intended to be used in the finishing of the fillets prior to the cutting of the planchets.

The design is presented as a means of overcoming the difficulty long experimental in obtaining Steel Rolls, the faces of which are of sufficient hardness to withstand the alteration to the face of the roll, destroying the truth of the same, thereby producing fillets of varying thickness.

In our experience of many years it has been found that Steel Rolls have failed to perform the work, and retain perfect accuracy of face for my considerable time: in fact, it must be granted that the destruction of the truth of the face common as with the first fillet rolled, and gradually continuing until the truth is reestablished by grinding the roll.

The Chilled Iron Rolls in use, while possessing such a degree of hardness of face as will for a long time preserve the truth of the face of the roll, should the face remain perfect; are not to be depended upon, from the constant liability of the face to be destroyed by the dropping out therefrom of crystals, or cubes of metal, leaving the face of the roll full on indentations varying in size, consequently preventing their being relied upon as finishing rolls, or even for the work of the breaking down of the ingot.

By reference to the record as kept of rolls, as used here, it is found that the average life, or period that rolls have been in use prior to regrinding is, for steel rolls, used on finishing drafts, 75 days; and on the breaking down of ingots into fillets 224 days, or three times longer than the life of the finishing rolls: it being here observed that defects in the breaking down process are corrected when fillets are passed between the finishing rolls, however the prolonged life of the break down rolls.

The cost of Steel Rolls, as compared with Chilled Iron, is as 6 to 1, Steel Rolls costing $1200.00, and Chilled Iron $200.00 per pair.

It is believed that a pair of hardened Steel Shell rolls, as per accompanying sketch, may be constructed at a cost not exceeding that paid for the solid steel rolls, and the request is made, that permission may be obtained to construct one pair for trial, as per design.

NARA RG104, Entry 1, Box 156

I herewith present a copy of a letter from "The J. Morton Poole Co." of Wilmington Del. Giving their views on the subject. The explanation appearing on the drawing will it is hoped fully describe the plan of making the steel shell rolls as stated above.

Very Respectfully,
Samuel James
Foreman of Mch. Shop

[Enclosed note:]
[Abstract:] Presents Designs for steel rolls.

Copy

The J. Morton Poole Co.
Manufacturer of Chilled Rolls,
Wilmington Del.
February 22, 1889

Dear Sir

We can see no reason why a pair of Steel Shells 10" diameter and 10" long, cannot be made and well searched on the shafts as shown on your drawing.

To make these hardened steel shells would require some special tools, and first class workmanship. The tempering or degree of hardness they would bear, must necessarily be a matter of experiment.

Yours truly,
The J. Morton Poole Co.
Wm. T. Porter
Prest.

To Mr. Samuel James
United States Mint at Philadelphia, Pa.

[Please see original images for diagram.]